

XLI.—*New Mammals collected in North-east Africa by Mr. Zaphiro, and presented to the British Museum by W. N. McMillan, Esq.* By OLDFIELD THOMAS, F.R.S.

BESIDES the remarkable bat, *Platymops Macmillani*, already described*, Mr. Ph. C. Zaphiro obtained during his trip from Adis Abbaba to Lake Rudolf the following new species of Mammalia. The type specimens of all of them have been presented to the British Museum by Mr. W. N. McMillan, by whose generosity Mr. Zaphiro was enabled to make this important exploration.

Helogale Macmillani, sp. n.

A very finely speckled form allied to *H. undulata* and *Atkinsoni*.

Size as in the two related species. Fur rather short, the longest hairs of the back barely attaining 13 mm. in length and the shorter ones about 8 mm. General colour above between broccoli-brown and Mars brown, warmer than the former, greyer than the latter; finely ticked with minute buffy specks, terminal or subterminal on the dorsal hairs, the specks far finer than in the allied species and each measuring less than 1 millimetre in length. Under surface near Prout's brown, with scarcely any speckling, a faintly warmer tinge (Mars brown) on the tips of the hairs. Crown finely ticked Prout's brown, becoming Mars brown or verging towards russet on the sides of the face, lips, chin, ears, and on areas round and behind the last-named parts. Limbs to wrists and ankles like the body; upper surface of hands and feet russet, without speckling. Tail speckled bistre, a russet line on the under surface proximally, and a few russet hairs mixed with the pencil at the tip.

Skull and dentition as in the above-named species.

Dimensions of the type (measured in the flesh):—

Head and body "182" † mm.; tail 159; hind foot 41; ear 20.

Skull: length of nasals 6; interorbital breadth 9; front of canine to back of m^2 15.6.

Hab. Delbena R., Konso. Alt. 3200'.

Type. Subadult male. Original number 141. Collected 26th August, 1905.

This species is intermediate in colour, as in geographical

* Ann. & Mag. Nat. Hist. (7) xvii. p. 500 (1906).

† Evidently undermeasured; must be at least 200 or 215 mm.

position, between the grey *H. Atkinsoni* of Somaliland and the more rufous *H. undulata* of British and German East Africa; but the unusually fine speckling of the body-colour is peculiar to it. In dentition it corresponds closely with *H. Atkinsoni*, and differs equally from the broad-toothed *H. hirtula*.

Ictonyx capensis shoei, subsp. n.

Size large, slightly exceeding that of true *capensis*, therefore markedly different from the small *erythraea*, de Wint., of Suakin. General marking normal, the black lines clearly defined, little softened by isolated white hairs or by the tips of the hairs of the white areas overhanging them. Frontal spot of medium size, larger than in true *capensis*, about an inch long by half an inch broad, running back in a point towards the crown, separated on each side from the post-orbital white mark by about half an inch of pure sharply-defined black. In *erythraea* the median white spot more nearly approaches the lateral ones. Outer white stripes of nape markedly broader than the inner. Tail rather less white than in other subspecies.

Skull apparently rather more elongate in general outline than in some of the allied forms.

Dimensions of the type (measured in flesh) :—

Head and body 395 mm.; tail 298; hind foot 64; ear 30.

Skull: condylo-basal length 69; basal length 63; greatest breadth 45; interorbital breadth 18; mastoid breadth 36.3; palatal length 32.3; length of upper p^4 on outer edge 7.7.

A younger male skull, with nasal sutures still open, measures 66.5 mm. in condylo-basal length, and a female of about equal immaturity 62.5.

Hab. Adis Abbaba. Alt. 8500'.

Type. Old male. Original number 6. Collected 15th September, 1904.

“Trapped in a Galla house near the legation.”

This form of *Ictonyx* differs by its larger size from the Red-Sea *erythraea*, while by the well-marked black band separating the frontal from the lateral white face-markings it is distinguishable from the *intermedia* of Uganda and British East Africa, in which these white areas are scarcely separated from each other or even form an uninterrupted band across the face.

Xerus rutilus stephanicus, subsp. n.

General characters as in true *rutilus*, but the grizzled

yellowish grey—restricted in that form to the centre of the back—is spread over the whole of the upper surface, so that the pink area along the sides is reduced to a narrow strip, or even occasionally absent, the rufous of the forearms and hips being in such cases isolated from each other. Base of tail coloured like back. Hands slightly suffused with rufous; feet yellowish white.

Dimensions of the type (measured in skin):—

Head and body 215 mm.; tail 180; hind foot 53.

Skull: greatest length 53; length of upper tooth-series 9.7.

Hab. Between N. end of L. Rudolf and L. Stephanie.

Type from the latter. Alt. 2000'.

Type. Adult male. Original number 132. Collected 18th August, 1905.

These ground-squirrels are by no means easy to sort into geographical races, owing partly to their variability and partly to their liability to bleaching, the black parts of the fur bleaching through rufous and fawn to pale sandy, so as to give a wholly different appearance to specimens killed before or after the moult. But by a careful comparison of specimens all in fresh fur I find that the series from the Stephanie area differ sufficiently on the average from those representing true *rutilus* to make a local name advisable, though some examples show evidence of intergradation. The other named forms in this group—*brachyotus*, *dabagalla*, *intensus*, and *saturatus*—are all further off, both geographically and zoologically, than the true *rutilus* of Eastern Abyssinia.

Otomys typus fortior, subsp. n.

By the kindness of Dr. Lampert, of the Stuttgart Museum, I have been entrusted with the loan of the typical skull of Heuglin's *Oreomys typus*, and I regret to find that it is after all of the same group as my *Otomys Degeni*, Heuglin's description of its incisive grooves proving to be grossly inaccurate. Their true number and positions are as described in *O. Degeni*, and this latter must, I fear, be regarded as a synonym of *O. typus*.

But the Kaffa form obtained by Mr. Zaphiro, though similar to *typus* and *Degeni* in all essential respects, is sufficiently larger to make me think it should have a special subspecific name. The skull, as a whole, is markedly larger than that of *Degeni*, which agrees with what remains of the specimen of *typus*. The worn surface of the upper molars is 8.5 mm. in length, as compared with 7.7 in the other two. The breadth of the two upper incisors, taken together, is 4.7 mm. in *fortior*, 4.1 in *Degeni*, and 3.7 in *typus*.

There is no evidence of any marked difference of age between the three skulls, but, if anything, the type of *typus* is the oldest of all.

In colour the type of *fortior* is rather browner than that of *Degeni*, the feet are darker, and the yellowish markings over the eyes and on and behind the ears are practically absent.

The following are the general measurements of the type:—

Head and body 182 mm.; tail 97; hind foot 30; ear 26.

Skull: greatest length 39; basilar length 32·2; greatest breadth 19·8; palatilar length 18·5; palatal foramina 7·7; length of upper molars (crowns) 9·5.

Hab. Charada, Kaffa. Alt. 6000'.

Type. Adult female. Original number 102. Collected 4th June, 1905.

Tatera Harringtoni, sp. n.

Allied to *T. Eminii*, Thos., but much smaller.

Size very small for a *Tatera*. General colour along the dorsal area clay-colour, darkened by the minute blackish tips to the hairs. Sides clearer, more nearly "pinkish buff," the hairs with whitish subterminal bands. Lower part of muzzle pure white, the same region in *Eminii* being more or less buffy. A patch above and behind each eye dull whitish. A white patch behind each ear. Hands and feet white as usual. Soles naked posteriorly, but with a band of short hairs crossing them near the base of the hallux, as in *Eminii* alone of other gerbilles. Tail unusually well tufted, with long brownish-black hairs, which attain a length at the tip of about 14 mm.; shorter hairs of tail dull buffy whitish.

Skull closely similar to that of *T. Eminii*, but conspicuously smaller throughout.

The posterior palatal vacuities, between the molars, are, however, much narrower than the anterior palatal foramina, while in *T. Eminii* they are nearly or quite as broad as the latter.

Dimensions of the type (measured in the flesh):—

Head and body 96 mm.; tail 132; hind foot 28; ear 19.

Skull: greatest length 30·7; basilar length 22·3; inter-orbital breadth 6; breadth of brain-case 14·2; diastema 8·2; palatal foramina 5·2 × 2; length of bulla 9; length of upper molar series 4·3.

Hab. Mutti Galeb, E. of Lake Rudolf. Alt. 2300'.

Type. Adult female. Original number 122. Collected 26th July, 1905.

"Caught in dry river-bed."

This pretty gerbille is allied only to *T. Eminii*, with which

it shares the peculiar and hitherto unique character of the hairy band passing across the sole and dividing from each other the smooth posterior part and the distal part at the base of the toes, where the tubercles are situated. From that species, which was discovered at Walalai by Emin Pasha, it is at once distinguishable by its much smaller size.

Named in honour of Col. Sir John Harrington, British Resident in Abyssinia, without whose active assistance Mr. Zaphiro would hardly have been able to carry out his successful collecting-trip.

Arvicanthis rex, sp. n.

A very large species without dorsal stripe.

Size larger than in any other species. General colour of fore-back between hair-brown and smoke-grey, resulting from a coarse mixture of blackish brown and creamy white; posteriorly the light colour becomes more and more buffy, so that round the base of the tail and on the lower leg it approaches tawny ochraceous. Sides lined cream-buff. Under surface and inner side of limbs white. Forearms dull buffy; hands pale brown; upper side of feet whitish laterally, pale tawny along the middle line. Tail blackish above, dull white on sides and below.

Dimensions of the type (measured in the flesh):—

Head and body 212 mm.; tail 175; hind foot 36; ear 22.

Hab. Charada Forest, Kaffa. Alt. 6000'.

Type. Adult male. Original number 101. Collected 30th May, 1905.

This is a remarkably fine species, very different from anything hitherto described. Its colour has almost a suggestion of silvery blue-grey in it not easy to describe, but very characteristic, while at the same time its unusual size and the entire absence of any trace of a darker dorsal band will distinguish it from the other members of the group. Unfortunately the skull is missing, but the species is so distinct as to be readily recognizable by its external characters.

Lophuromys Zaphiri, sp. n.

General colour above greyish, without the warmer tones of the other forms, most nearly matching "hair-brown" of Ridgway; very finely speckled with buffy. The bases of the hairs deep rufous. Under surface fawn, more or less suffused with buffy. Upper surface of hands and feet dull whitish. Tail short, strongly tapering, well haired, markedly bicolor, black above, whitish below, sharply defined laterally.

Skull with very widely open palatal foramina. Molars apparently rather broader than usual.

Dimensions of the type (measured in the flesh):—

Head and body 139 mm.; tail 66; hind foot 20; ear 19.

Skull: greatest length 30; basilar length 25.2; nasals 12.2; interorbital breadth 6; length of palatal foramina 6.6; length of upper molar series 5.6.

Hab. District east of the Upper Omo. Type from Bodeli, Walamo. Alt. 6200'.

Type. Subadult male. Original number 145. Collected 15th September, 1905.

This animal may be distinguished from its allies by its markedly greyer colour and finer speckling. It has the short tail of *L. flavopunctatus*.

The genus *Lophuromys* falls readily into two groups of species—the one from Eastern Africa (Abyssinia to Nyasa), with speckled fur, and the other Western (Uganda to the Gold Coast), with unspeckled fur. Whether the forms within each of the groups will be found to intergrade remains to be seen, but for the present I have thought it best to use a binomial term for the Eastern Omo animal.

I have named this species in honour of Mr. Ph. C. Zaphiro, the collector, who deserves the greatest credit for his remarkable exploring-trip, of which the series of mammals only forms a small part of the outcome.

Lophuromys aquilus brunneus, subsp. n.

General colour pale brownish, without the yellowish tone of *L. flavopunctatus*, the light rings of the hairs "clay-colour." Under surface variable as usual, ranging from pale brown to clay-colour. Hands and feet pale brownish, with or without a central dark metatarsal streak. Tail long as compared with that of *L. flavopunctatus*, apparently more as in the East-African *aquilus*, its colour not so conspicuously bicolor as in *flavopunctatus*, the under surface only slightly lighter than the upper.

Dimensions of the type (measured in the flesh):—

Head and body 125 mm.; tail 80; hind foot 23; ear 20.

Skull: length of nasals 11.7; interorbital breadth 6.5; diastema 8.5; palatal foramina 6.8 × 2.7; length of upper molar series 5.3.

Hab. District west of the Upper Omo. Type from Manno, Jimma. Alt. 4200'.

Type. Male. Original number 90. Collected 13th May, 1905.

This *Lophuromys* would seem to be a paler form of the strong-coloured East-African *L. aquilus*. Possibly it may in turn prove to grade northwards into *L. flavopunctatus*, but all the specimens as yet available have longer tails than that animal.

XLIII.—*Natural History Notes from the R.I.M.S. Ship 'Investigator,' Capt. T. H. Heming, R.N. (retired), commanding.*—Series III., No. 14. *Notes on the Skull of the Genus Aulastomatomorpha, with Descriptions of some new Deep-sea Fish.* By R. E. LLOYD, M.B., B.Sc., Capt. I.M.S., Surgeon-Naturalist, Marine Survey of India.

THE genus *Aulastomatomorpha*, first described by Alcock from a single specimen (Ann. & Mag. Nat. Hist., Oct. 1890), is unique among the Alepocephalidæ in possessing a tubular snout with a small terminal mouth.

A second specimen of the same species was obtained by the 'Investigator' in 1904 from 1100 fathoms off the Arakan coast, and in the following year a new species of this genus was obtained from 1005 fathoms in the Gulf of Oman.

Material has been thus obtained for a partial description of the skull of this genus and for a more particular description of the jaw suspensory apparatus, which can be fully elucidated without complete disarticulation and destruction of the specimen.

A notable feature in the structure of this skull is the forward position of the quadrate and the consequent prolongation of the symplectic and præopercle which articulate with it.

The quadrate is a thin fan-shaped bone situated almost entirely in front of the orbit, articulating with the pterygoid and articular in front, and with the symplectic and the præopercle behind. The large pterygoid is partially overlapped in front by the small toothless palatine.

The mesopterygoid, also a large bone, forms most of the lower floor of the orbit; in front it lies to the inner side of and above the quadrate and pterygoid.

The metapterygoid, a small bone, lies on and partially hides the symplectic.

The symplectic is of unusual length.

The maxilla, which is very loosely connected with the snout, consists of two separate crescentic particles, movable on one another.